**COURSE CURRICULA:**

**Day- 1**

* Overview of electronics components and sensors
* Arduino Board and I/O description
* Installing Arduino IDE
* Structure of Arduino sketeches
* Arduino code syntax (loop, If else statement, function etc…)
* Writing a Simple Program (Blinking LED)

**Day- 2**

* Programming with digital I/O (switch & LED)
  + Wiring up switches and push buttons
  + Events and Actions - Deciding what to do when a button is pressed or a switch is turned on
  + Interfacing transistor as a switch.
  + Relay interfacing.
* Timers and their uses
* Programming with Analog to Digital Conversion
  + Programming with Arduino Voltmeter.

**Day- 3**

* PWM interfacing with Arduino.
  + Controlling power output using Pulse Width Modulation (PWM)
  + The Arduino analog output as a PWM output
  + Using PWM to vary the intensity of an LED
  + Low voltage DC motors interfacing.

**Day- 4**

* Serial communications
  + Introduction to RS232
  + How the RS232 port of the Arduino microcontroller communicates with the PC over a USB connection
  + Using RS232 for communication between an Arduino and a PC

**Day-5**

* Interfacing EEPROM with Arduino
* Various Arduino shield
* Review / Make-up class
* Practical Exam
* Projects/Assignments

* LED
* RGB LED
* Push Button
* Potentiometer (Knob)
* DC Motor
* Motor Driver IC
* Relay
* Servo Motor
* LDR
* PIR
* LCD
* Ultrasonic Sensor
* Keypad
* Humidity Sensor
* Bluetooth
* Breadboard
* Arduino
* LCD
* 7-Segment
* 4 Digit Red Color Common Anode
* LED
* Pot
* Relay
* LM35
* Bluetooth
* DS1307 I2C
* DC Geared Motor + L298N
* LDR Sensor Module
* Buzzer
* MQ5 Gas Sensor Module
* HC-SR04 Ultrasonic
* (RGB) LED
* LED
* 7-Segment
* DC Geared Motor + L298N

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| Introduction to  robotics and basic electronics component |
| Software Installation and Overview and Blink |
| Arduino Architecture and Input Output |
| Seven Segment Display |
| PWM & DC motor |
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For 40 CH relay & 4 FAN speed control

|  |  |
| --- | --- |
| Arduino mega | 800 |
| Arduino uno | 4\*450 |
| Wifi | 250 |
| Realy 40CH | 5\*500 |
| Power supply 5A 5V | 400 |
| bluetooth | 350 |
| AC voltage drimmer | 4\*300 |
| Wires | 250 |
| Box | 400 |
| Others | 300 |

8250

For 40 CH without speed control

|  |  |
| --- | --- |
| Arduino mega | 800 |
| Wifi | 250 |
| Realy 40CH | 5\*500 |
| Power supply 5A 5V | 400 |
| bluetooth | 350 |
| Wires | 250 |
| Box | 400 |
| Others | 300 |

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